To: FCC From: Patricia Burke

Re: 25-133 Delete Delete Delete Date: April 9, 2025

The testimony focuses on the risks posed to First Responders due to the FCC continuing to regulate exposures based only on thermal effects, including not addressing damage to the Blood Brain Barrier.

Firefighters in particular also face occupational exposures of chemicals and other health risks that may interact synergistically with radio frequency radiation exposures.

The FCC has unlawfully ignored the 2021 Court remand regarding radio frequency exposure guidelines which have not been revised since 1996. The court found that the FCC failed to address: impacts of long-term wireless exposure, impacts to children, the testimony of people injured by wireless radiation, impacts to wildlife and the environment, and impacts to the developing brain and reproduction.

Due to the FCC's failure to respond to the 2201 court remand, and failure to address emerging science, the responsibility for regulatory functions regarding health safety should be immediately deleted from the FCC's area of jurisdiction and assigned to other agencies, particularly concerning technology decisions impacting First Responders.

May 2017 Environmental Health Trust: "The Firefighters Wake Up Call to Us All" by Susan Foster RE: SB 649 Opposing Cell Towers in Rights of Way

Senate Bill 649 was designed to allow for rapid deployment of small cell towers to be placed every 5 to 10 homes without the local zoning procedures that have been guaranteed for 20 years by the Telecommunications Act of 1996. This expansion is part of the coming 5G infrastructure build out.

The industry-friendly California legislature may claim they know nothing about health concerns, but in fact they do. **The legislature granted an exemption from SB 649 to the firefighters who have fought cell towers on their stations in court and in their cities for almost 20 years**. Throughout California firefighters have long complained of often disabling symptoms from cell towers on their stations. Cities frequently rent out space on fire stations to add to city revenue. Firefighters live and sleep in the stations when on duty, and have experienced significant RF radiation exposure.

A 2004 SPECT brain scan study of firefighters in Central California found brain abnormalities in all the men tested, as well as delayed reaction time, lack of impulse control and cognitive impairment. None of the men worked HazMat, so chemical exposure was ruled out. All the firefighters tested had suffered from sleep disturbances, headaches, lack of focus and memory loss following installation of a tower adjacent to their station five years earlier. They sued the wireless company

that told them the towers were perfectly harmless, but Sec. 704 of The Telecommunications Act of 1996 does not allow health to be taken into consideration when siting a tower, so the judge dismissed the lawsuit.

Thus the current firefighter exemption does not specify “health” as a reason for the exemption. Yet the history of the firefighters is well known, and society depends on them for health and safety emergencies. This exemption is an implicit acknowledgment of health risk, and the firefighters deserve this exemption.

The fact is, we all deserve an exemption. Since the State’s granting of the exemption for fire stations implies acknowledgement of the health risk for firefighters, this begs the obvious question: What about the rest of us who are inherently more vulnerable – particularly the unborn, children, teens, those who are ill and disabled, and the elderly? We should all be allowed to retain local control and have as much say as possible to protect our communities and our families.

https://ehtrust.org/firefighters-wake-call-us-susan-foster-re-sb-649-opposing-cell-towers-rights-way/

May 2017: Environmental Health Trust: Firefighter Unions Opposing Cell Towers

[] the International Association of Fire Fighters has an official position against cell towers on fire stations.

“The International Association of Fire Fighters’ position on locating cell towers commercial wireless infrastructure on fire department facilities, as adopted by its membership in August 2004 (1), is that the IAFF oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until a study with the highest scientific merit and integrity on health effects of exposure to low-intensity RF/MW radiation is conducted and it is proven that such sitings are not hazardous to the health of our members.”

Firefighter groups in the United States have long opposed cell towers on their stations. Not only that, but in California they have been able to be exempt from the forced placement of towers on their stations because of the strong opposition they have- due to health concerns from the radiation.
What exemptions have California firefighters fought for that that stopped cell towers being forced on their stations?

AB57- Firefighters lobbied to exempt cell towers and cell antennas on or adjacent to their facilities in regards to **California’s 2015 legislation AB57** . CA AB57 (2015) Legiscan Text of Bill. ” Section 65964.1. (*f) Due to the unique duties and infrastructure requirements for the swift and effective deployment of firefighters, this section does not apply to a collocation or siting application for a wireless telecommunications facility where the project is proposed for placement on fire department facilities. “*
SB649- They also received an exemption in **California’s SB649 (2018**), a bill which was ultimatley vetoed by Governor Brown. SB 649 California (2017) Wireless

Telecommunications Facilities – 65964.2. *“(a) A small cell shall be a permitted use subject only to a permitting process adopted by a city or county pursuant to subdivision (b) if it satisfies the following requirements: ….(3) The small cell is not located on a fire department facility.”*

https://ehtrust.org/firefighter-unions-opposing-cell-towers/

International Association of Fire Fighters

It is the belief of some international governments and regulatory bodies and of the wireless telecommunications industry that no consistent increases in health risk exist from exposure to RF/MW radiation unless the intensity of the radiation is sufficient to heat body tissue. However, it is important to note that these positions are based on non-continuous exposures to the general public to low intensity RF/MW radiation emitted from wireless telecommunications base stations. Furthermore, most studies that are the basis of this position are at least five years old and generally look at the safety of the phone itself. IAFF members are concerned about the effects of living directly under these antenna base stations for a considerable stationary period of time and on a daily basis. There are established biological effects from exposure to low-level RF/MW radiation. Such biological effects are recognized as markers of adverse health effects when they arise from exposure to toxic chemicals for example. The IAFF’s efforts will attempt to establish whether there is a correlation between such biological effects and a health risk to fire fighters and emergency medical personnel due to the siting of cell phone antennas and base stations at fire stations and facilities where they work.

https://www.iaff.org/cell-tower-radiation/
INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS
ADVOCACY
HEALTH & SAFETY
TRAINING
EVENTS
NEWSROOM
EN/FR
CELL TOWER RADIATION HEALTH EFFECTS
The International Association of Fire Fighters' position on locating cell towers commercial wireless infrastructure on fire department facilities, as adopted by its membership in August 2004[1], is that the IAFF oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone

https://www.iaff.org/cell-tower-radiation/

Internationally acknowledged experts in the field of RF/MW radiation research have shown that RF/MW transmissions of the type used in digital cellular antennas and phones can have critical effects on cell cultures, animals, and people in laboratories and have also found epidemiological evidence (studies of communities, not in the laboratory) of serious health effects at "non-thermal levels," where the intensity of the RF/MW radiation was too low to cause heating. They have found:

Increased cell growth of brain cancer cells5

A doubling of the rate of lymphoma in mice6

Changes in tumor growth in rats7

An increased number of tumors in rats8

Increased single- and double-strand breaks in DNA, our genetic material9

2 to 4 times as many cancers in Polish soldiers exposed to RF10

More childhood leukemia in children exposed to RF11

Changes in sleep patterns and REM type sleep12

Headaches caused by RF/MW radiation exposure13

Neurologic changes14 including: Changes in the blood-brain-barrier15,Changes in cellular morphology (including cell death)16,

Changes in neural electrophysiology (EEG)17, Changes in neurotransmitters (which affect motivation and pain perception)18,

Metabolic changes (of calcium ions, for instance)19 and Cytogenetic effects (which can affect cancer, Alzheimer's, neurodegenerative diseases)20

Decreased memory, attention, and slower reaction time in school children21

Retarded learning in rats indicating a deficit in spatial "working memory"22

Increased blood pressure in healthy men23

Damage to eye cells when combined with commonly used glaucoma medications24

Many national and international organizations have recognized the need to define the true risk of low intensity, non-thermal RF/MW radiation exposure, calling for intensive scientific investigation to answer the open questions.

"Computer power bars have surge protectors to prevent damage to computers. Fire fighters and emergency medical personnel do not!"

Firefighters Have Also Reported Electromagnetic Sensitivity Symptoms

Within a week of installation of first responder cell towers on fire stations many firefighters developed unusual symptoms of headaches, fatigue, insomnia, memory loss, confusion, nausea and weakness. A study of several firefighters was commissioned by the International Association of Firefighters (IAFF) in 2004. The SPECT scan studies of the firefighters revealed a pattern of abnormal change which was concentrated over a wider area than would normally be seen in brains of individuals exposed to toxic inhalation, as might be expected from fighting fires. Because of this study and a compelling amount of research on health harm from non-ionizing wireless radiation the IAFF wrote an IAFF Resolution No. 15, dated August 2004, to prohibit cell towers from being placed on their fire stations.

The IAFF Resolution No. 15 states, "The International Association of Fire Fighters' position on locating cell towers commercial wireless infrastructure on fire department facilities, as adopted by its membership in August 2004, is that the IAFF oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until a study with the highest scientific merit and integrity on health effects of exposure to low-intensity RF/MW radiation is conducted and it is proven that such sitings are not hazardous to the health of our members."

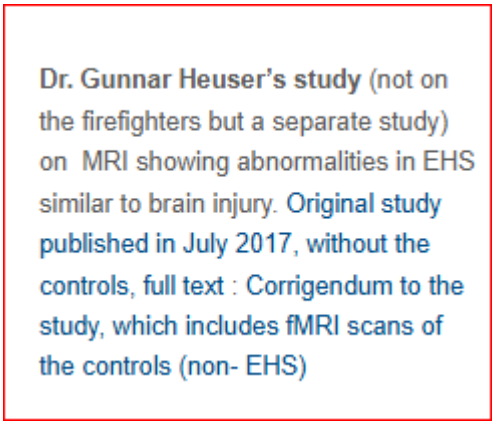
References are live at link: https://www.iaff.org/cell-tower-radiation/

https://www.iaff.org/cell-tower-radiation/

August 2004: Press Release on the Firefighter Resolution and Research Study that found Neurological Damage:

INTERNATIONAL ASSOCIATION OF FIREFIGHTERS (IAFF) VOTES TO STUDY HEALTH EFFECTS OF CELL TOWERS ON FIRE STATIONS Call for Moratorium on New Cell Towers on Fire Stations Until Health Effects Can Be Studied

Affidavit of Susan Foster detailing the study – unfortunately the FCC has disabled the link


Dr. Gunnar Heuser's study (not on the firefighters but a separate study) on MRI showing abnormalities in EHS similar to brain injury. Original study published in July 2017, without the controls, full text : Corrigendum to the study, which includes fMRI scans of the controls (non- EHS)

Dr Heuser's work can be viewed here: https://www.researchgate.net/scientific-contributions/Gunnar-Heuser-2130134147

August 2020: Testimony on 5G, Firefighters & Cell Towers to Malibu City Council by Susan Foster

August 25, 2020 Dear Mayor Pierson & Malibu City Councilmembers,

On Monday evening, August 24, 2020 I spoke to you regarding the firefighter study I organized in 2004. This was a study conducted by Gunnar Heuser, MD, PhD of six firefighters in the Santa Barbara area who had been exposed to a 2G cell tower in front of their station for 5 years. All six men were found to have brain abnormalities on SPECT brain scans. Beginning the day the tower was activated, firefighters began experiencing the following symptoms:

Headache, including migraine

Tinnitus

Lethargy

Cognitive impairment

Sleep disturbances

Inability to go to sleep

Waking up as if they had been anesthetized

Anxiety

Depression

Infertility

Immunosuppression

All of these men were healthy prior to activation of the tower. **They had all been told by the wireless carrier that there were no ill effects from the technology. When the firefighters complained to the carrier that they were ill and unable to function in their jobs at maximum capacity, they were told the tower was well within the FCC guidelines.** On Monday evening I told you that the tower was measured at 1/1000th of what the FCC allows.

Rather than reassurance, this is deeply concerning because what it tells us is that the men who passed rigorous cognitive and physical exams before entering the fire service became ill when a tower was placed in front of their station at a fraction of what the government allows. When the strongest of the strong among us become ill at a fraction of what the government permits, what about children, what about pregnant women, what about women in general because their body mass is smaller than men, what about the elderly, the infirm, those fighting cancer, neurodegenerative diseases such as Alzheimer's and those with immunosuppression and autoimmune deficiencies. []

FirstNET towers were targeted for fire stations and some sheriff stations, but they were not invited by the firefighters nor the fire departments. FirstNET was initially promoted as a First Responders emergency services network, a project promoted through FEMA. Fire stations were targeted for these 120 foot towers that were going to be used in part for a First Responders telecommunications network. In addition, FirstNET towers rent out space on the structures to commercial carriers as well provide space for Homeland Security

Dr. Gunnar Heuser, conducted brain studies on firefighters following a cell tower installation on their firestation and found that they were all abnormal

Dr. Gunnar Heuser, lead brain studies on firefighters following a cell tower installation on their firestation and found that they were all abnormal. His SPECT brain study on firefighters in 2004 who complained of neurological problems following a cell tower installation at their firestation 5 years ago and found that they were abnormal.

The symptoms they experienced were; headaches, memory problems, sleeping problems, depression, and anxiety-
https://ecfsapi.fcc.gov/file/10624964627095/California%20Firefighters%20Pilot%20Study-Susan%20Foster%20before%20the%20FCC.pdf
https://ecfsapi.fcc.gov/file/7022117660.pdf

These links have been disabled by the FCC.

The study, conducted by Dr. Gunnar Heuser of Agoura Hills, CA, focused on neurological symptoms of six firefighters who had been working for up to five years in stations with cell towers. Those symptoms included slowed reaction time, lack of focus, lack of impulse control, severe headaches, anesthesia-like sleep, sleep deprivation, depression, and tremors. Dr. Heuser, along with Dr. J. Michael Uszler of Santa Monica, CA, used functional brain scans - SPECT scans - to assess any changes in the brains of the six firefighters as compared to healthy brains of men of the same age. Computerized psychological testing known as TOVA was used to study reaction time, impulse control, and attention span. Disturbingly, the SPECT scans revealed a pattern of abnormal change which was concentrated over a wider area than would normally be seen in brains of individuals exposed to toxic inhalation, as might be expected from fighting fires. Dr. Heuser indicated the only plausible explanation at this time would be RF radiation exposure. Additionally, the TOVA testing revealed among the six firefighters delayed reaction time, lack of impulse control, and difficulty in maintaining mental focus.
See: https://ehtrust.org/firefighter-unions-opposing-cell-towers/

L.A. County Firefighters Local 1014 “It’s a no-brainer that LA County should at least have done a proper study before before putting 200-foot high-power microwave antennas on top of our heads.”

Local 1014 had a webpage dedicated to stopping towers because of a plan to install them on over 200 of their stations. See the webpage saved here https://web.archive.org/web/20150403040308/http://www.stopcellphonetowers.com/index.html

“As firefighters and paramedics, we live in these firehouses. What effect will these towers have on us? What are the risks to our neighbors? It’s a no-brainer that LA County should at least have done a proper study before before putting 200-foot high-power microwave antennas on top of our heads.”Dave Gillotte, Active Duty Fire Captain, President, LA County Firefighters Local 1014

Damage to the Blood-Brain Barrier – identified in 1975

Both Firefighters and military personnel often incur additional risks due to chemical exposures that would be exacerbated by damage to the blood brain barrier.

As the Cellular Phone Task Force reported, *“In a study published in 1975 in the Annals of the New York Academy of Sciences, Frey reported that microwaves could induce “leakage” in the barrier between the circulatory system and the brain. Breaching the blood-brain barrier is a serious matter. It means that bacteria, viruses and toxins from the blood can enter the brain. It means the brain’s environment,*

which needs to be extremely stable for nerve cells to function properly, can be perturbed in other dangerous ways. Frey's method was rather simple: He injected a fluorescent dye into the circulatory system of white rats, then swept the ¬microwave frequencies across their bodies. In a matter of minutes, the dye had leached into the confines of the rats' brains. Dr. Leif Salford [] , is currently the most active researcher continuing Frey's pioneering work on the blood-brain barrier.

https://cellphonetaskforce.org/the-work-of-allan-h-frey/

FirstNet

DALLAS, March 31, 2025 FirstNet Expands Coverage for America's First Responders, Surpasses 7 Million Connections Innovative solutions enhance in-building connectivity and give public safety unprecedented visibility into their network

with no relevant safety testing, for first responders, for those living in the vicinity of the towers and antennas/

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Regulatory functions regarding health safety should be immediately deleted from the FCC's area of jurisdiction and assigned to other agencies, particularly concerning technology decisions impacting First Responders.